

# PATENT ABSTRACTS OF JAPAN

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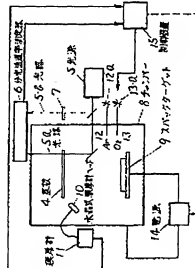
(71)Applicant : MATSUSHITA ELECTRIC IND CO LTD  
(72)Inventor : YOSHIOKA KAZUMI  
INOUE ISAMU  
MATSUBARA KUNIHIO  
OTA TAKEO  
NISHINO SEIJI  
ONO YOSHINOBU  
SHIBAZAKI HATSUHIKO

## (54) METHOD AND DEVICE FOR FORMING THIN FILM

### (57)Abstract:

PURPOSE: To form a film having stable characteristics and to improve the quality of the film by obtaining the information on the compsn. of the film from the information on the transmittance of a thin film under formation and the information on the thickness of the film and controlling film forming conditions.

CONSTITUTION: Of the light emitted from a light source 5, the light of an optical path 5a past a substrate 4 under film formation and the light of an optical path 5b past a reference substrate 7 are put into a spectral transmittance measuring instrument 6 which measures the transmittance of the vapor deposited film from the ratio of both the transmitted light beams. On the other hand, the rate of the target material splashing from the target 10 is monitored and the film thickness is measured by a quartz type film thickness gage head 10 of a film thickness gage 11. The information of the film thickness gage 11 and the information from the spectral transmittance measuring instrument 6 are inputted to a control device 15. The flow rate of oxygen or sputtering power is controlled in accordance with this information by the control device 15, by which the compsn. of the thin film is controlled to the desired compsn.



*Sputtering!*

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